APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/320,252	05/26/1999	PAUL EVAN MATZ	02950.P033	4390

7590   09/23/2002

ANDRE L MARAIS
BLAKELY SOKOLOFF TAYLOR & ZAFMAN
12400 WILSHIRE BOULEVARD
7TH FLOOR
LOS ANGELES, CA 90025

EXAMINER
ENGLAND, DAVID E

ART UNIT	PAPER NUMBER
2156	

DATE MAILED: 09/23/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

<table>
<tr><td colspan="4">

Office Action Summary

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Application No.

09/320,252

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Applicant(s)

MATZ ET AL.

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<tr><td colspan="4"></td><td colspan="2">

Examiner

David E. England

</td><td>

Art Unit

2156

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 September 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
     closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

   If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
          application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

   a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *4* .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: .

DETAILED ACTION

1. Claims 1 – 23 are presented for examination.

Claim Rejections - 35 USC § 112

1. Claim 21 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase "systematic multiprocessor environment", page 31, line 8, is not included in the specification. Please give a more detailed description of the meaning of this phrase in your specification.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1, 2, 9 – 11 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6167423 Chopra et al. (hereinafter Chopra).

3.·   Referencing claim 1, Chopra teaches a method of executing a transaction task within a transaction

processing system, the method including:

4.   responsive to an event, identifying a workflow associated with the event, (e.g. col. 1, line 34 – col. 2,

line 33 & col. 5, lines 1 – 24); and

5.   distributing a task, that at least partially executes the workflow, to an available thread within a pool of

threads operating within a multiprocessor system, (e.g. col. 1, line 34 – col. 2, line 33 & col. 5, lines 1 – 24).

6.   Referencing claim 2, Chopra teaches wherein the event comprises a transaction event and the task

comprises a transaction task responsive to a transaction request associated with the transaction event, (e.g. col.

8, lines 29 – 65).

7.   Claims 9 – 11 are rejected for similar reasons as stated above.

Claim Rejections - 35 USC § 103

8.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set

forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this
> title, if the differences between the subject matter sought to be patented and the prior.art are such that the subject matter as a whole
> would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter
> pertains. Patentability shall not be negatived by the manner in which the invention was made.

9.   Claims 3 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chopra (6167423) in

view of Szlam et al. (6314089) (hereinafter Szlam).

10.   As per claim 3, Chopra does not specifically teach wherein the transaction task comprises a transaction

routing task that routes the transaction request associated with the transaction event to an agent of the

transaction processing system. Szlam teaches wherein the transaction task comprises a transaction routing task that routes the transaction request associated with the transaction event to an agent of the transaction processing system, (e.g. col. 21, lines 1 – 19). It would have been obvious to one skilled in the art at the time the invention was make to combine Szlam with Chopra so if a transaction task needed a resource that an agent possessed the transaction task could request it from the agent therefore aiding in the completion of the task.

11.   Claim 16 is rejected for similar reasons as stated above.

12.   Claims 4, 12, 13, 17, 21 – 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chopra (6167423) in view of Emmond (5327557).

13.   As per claim 4, Chopra does not specifically teach within the transaction task comprises a transaction information task to either store or retrieve information pertinent to a transaction. Emmond teaches within the transaction task comprises a transaction information task to either store or retrieve information pertinent to a transaction, (e.g. col. 6, lines 49 – 64). It would have been obvious to one skilled in the art at the time the invention was make to combine Emmond with Chopra because if a transaction task's information could aid in the process of another transaction task it would be more efficient to have the first transaction task be able to store it's information so another transaction task could retrieve it for future use.

14.   As per claim 12, Chopra teaches a scheduler that issues the task to the thread within the pool of threads, (e.g. col. 1, line 62 – col. 2, line 9). Chopra does not specifically teach the task queue. Emmond teaches the task queue, (e.g. col. 5, line 19 – col. 6, line 22). It would have been obvious to one skilled in the art at the time the invention was make to combine Emmond with Chopra because more then one task could be processed at one time therefore, it would be faster and more efficient to have a queue of tasks utilizing a pool of threads.

15.   As per claim 21, Chopra teaches a method of operating a transaction processing system employing a

multiprocessor architecture, the method including:

16.   servicing the queue of tasks utilizing a pool of threads executable within a systematic multiprocessor

environment, (e.g. col. 8, lines 44 – 65). Chopra does not specifically teach establishing a queue of tasks, the

queue of tasks including tasks for both system and transactional functions.

17.   Emmond teaches establishing a queue of tasks, the queue of tasks including tasks for both system and

transactional functions, (e.g. col. 5, line 19 – col. 6, line 22). It would have been obvious to one skilled in the art

at the time the invention was make to combine Emmond with Chopra because more then one task could be

processed at one time therefore, it would be faster and more efficient to have a queue of tasks utilizing a pool of

threads.

18.   As per claim 22, Chopra teaches wherein the tasks for the system functions include any one of reporting,

administration or maintenance tasks performed within the transaction processing system, (e.g. col. 6, line 45 –

col. 7, line 26).

19.   As per claim 23, Chopra teaches wherein the tasks for the transactional functions include any one of

routing, transaction data storage or transaction data retrieval tasks performed to facilitate a transaction within

the transaction processing system, (e.g. col. 5, line 48 – col. 6, line 29).

20.   Claim 13 and 17 are rejected for similar reasons as stated above.

21.   Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chopra (6167423) in view of

Sequeira (6222530).

22.   As per claim 5, Chopra does not specifically teach wherein the task has a real-time priority and is distributed in accordance with the real-time priority to the available thread within the pool of threads. Sequeira teaches wherein the task has a real-time priority and is distributed in accordance with the real-time priority to the available thread within the pool of threads, (e.g. col. 9, lines 16 – 31). It would have been obvious to one skilled in the art at the time the invention was make to combine Sequeira with Chopra because if an incoming task that is important, needs to be completed first, it could be sent to the next available thread within the pool of threads before the other tasks and be processed sooner.

23.   Claims 6 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chopra (6167423) in view of Wipfel et al. (6151688) (hereinafter Wipfel).

24.   As per claim 6, Chopra does not specifically teach identifying a processor affinity attributed to the task, and assigning the available thread to a processor within the multiprocessor system according to the processor affinity attributed to the task. Wipfel teaches identifying a processor affinity attributed to the task, and assigning the available thread to a processor within the multiprocessor system according to the processor affinity attributed to the task, (e.g. col. 16, lines 40 – 49). It would have been obvious to one skilled in the art at the time the invention was make to combine Wipfel with Chopra because if a task is allocated to a specific processor that is designed to process specific threads of tasks it could speed up the processing time.

25.   Claim 18 is rejected for similar reasons as stated above.

26.   Claims 7, 8, 19, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chopra (6167423) in view of Lucovsky et al. (6223207) (hereinafter Lucovsky).

27.   As per claim 7, Chopra does not specifically teach assigning the available thread to a processor within the multiprocessor system according to a thread priority. Lucovsky teaches assigning the available thread to a processor within the multiprocessor system according to a thread priority, (e.g. col. 8, lines 13 – 40). It would have been obvious to one skilled in the art at the time the invention was make to combine Lucovsky with Chopra because if a thread that has important information that other threads rely on does not get processed first it could cause errors in the system.

28.   As per claim 8, Chopra does not specifically teach assigning the thread priority to the available thread based on a priority, of the task distributed to the available thread. Lucovsky teaches assigning the thread priority to the available thread based on a priority, of the task distributed to the available thread, (e.g. col. 8, lines 13 – 40). It would have been obvious to one skilled in the art at the time the invention was make to combine Lucovsky with Chopra because if an incoming task that is important, needs to be completed first, it could be sent to the next available thread within the pool of threads therefore, causing the thread to have the same priority as the task therefore having the task be processed sooner.

29.   Claims 19 and 20 are rejected for similar reasons as stated above.

30.   Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chopra (6167423) in view of Emmond (5327557) in further view of Sequeira (6222530).

31.   As per claim 14, Chopra and Emmond do not specifically teach the scheduler issues the task from the task queue according to a priority dynamically assigned to the task. Sequeira teaches the scheduler issues the task from the task queue according to a priority dynamically assigned to the task, (e.g. col. 5, lines 46 – 56). It

would have been obvious to one skilled in the art at the time the invention was make to combine Sequeira with the combined system of Chopra and Emmond because if a new task that is important to the processing of upcoming task it would have to be processed first so to prevent errors in the system.

32.   Claim 15 is rejected for similar reasons as stated above.

33.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

34.   a.   Papadopoulos et al. U.S. Patent No. 5560029 discloses Data processing system with synchronization coprocessor for multiple threads.

35.   b.   Wollrath et al. U.S. Patent No. 6237024 discloses Method and apparatus for the suspension and continuation of remote processes.

36.   c.   Sundaresan U.S. Patent No. 6289369 discloses Affinity, locality, and load balancing in scheduling user program-level threads for execution by a computer system.

37.   d.   Orton et al. U.S. Patent No. 6351778 discloses Object-oriented operating system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David E. England whose telephone number is 703-305-5333. The examiner can normally be reached on Mon-Thur, 7:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alvin Oberley can be reached on 703-305-9761. The fax phone numbers for the organization where this application or proceeding is assigned are none for regular communications and none for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is none.
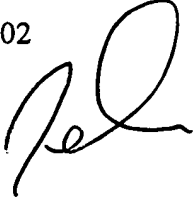
David E. England
Examiner
Art Unit 2156

De *DE*
September 17, 2002

JOHN A. FOLLANSBEE
PRIMARY EXAMINER